

# Underway measurements metadata form

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- Dataset Info:
  - Dataset ID: FRA near-Japan pCO<sub>2</sub> cruises
  - Submission Dates:
    - Initial Submission: 2011/12/28
    - Revised Submission: 2015/03/19
- Cruise Info:
  - Experiment:
    - Experiment Name: SY1105
    - Cruise:
      - Cruise ID: SY110521
      - Section:
      - Geographical Coverage:
        - Geographical Region: western North Pacific
        - Bounds:
          - Westernmost Longitude: +139.9 Degrees, Minutes, Seconds: E
          - Easternmost Longitude: +159.6 Degrees, Minutes, Seconds: E
          - Northernmost Latitude: +42.1 Degrees, Minutes, Seconds: N
          - Southernmost Latitude: +34.8 Degrees, Minutes, Seconds: N
      - Temporal Coverage:
        - Start Date: 2011/5/23
        - End Date: 2011/6/19
      - Ports of Call: depart: Yokohama arrive: Yokohama
  - Vessel:
    - Vessel Name: Soyo-Maru
    - Vessel ID:
    - Country: Japan
    - Vessel Owner: Fisheries Research Agency
- Variables Info:
  - Variable:
    - Variable Name: airP
    - Description of Variable: Atmospheric pressure at sea-surface pressure (hPa)
  - Method Description:
    - Equilibrator Design:
      - Equilibrator type: membrane equilibrator

- Equilibrator volume:0.4
  - Water\_Flow\_Rate: 2.5
  - Headspace\_Gas\_Flow\_Rate:0.1
  - Vented: Yes
- Measurement Method: automated version of Saito et al. [1995]
- Manufacturer of Calibration Gas: nissan-Tanaka Co. Ltd.
- CO<sub>2</sub> Sensors:
  - Manufacturer: Li-CO
  - Model: LI-6262
  - Environmental Control:
  - Resolution: 0.1 μmol/mol
  - Uncertainty: 0.1 μmol/mol
  - Calibration:
    - LI-6262 was calibrated at factory on Feb. 2004. CO<sub>2</sub> concentration in standard gas cylinder was calibrated at factory with WMO scale.
- Other sensors:
  - Manufacturer: JFE Arec Co. LTD (SST), Sea-Bird (SSS)
  - Model: ACT-RS, SBE21
  - Resolution: 0.01°C (SST), 0.003 (SSS)
  - Calibration:
    - ACT-RS was calibrated at factory on Sept. 2010, while SBE21 was calibrated at factory on Jan.18 2011.
- Method References:
  - H. Saito et al., A compact seawater pCO<sub>2</sub> measurement system with membrane equilibrator and nondispersive infrared gas analyzer, Deep-Sea Res., 42, 2025-2033, 1995
- Additional Information:
- Data Set References:
- Citation:
- Data Set Link:
  - URL:
  - Label:
  - Link Note: